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APPLICANTS:	John Barrus, Kurt Piersol, and Stephen Savitzky
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AMENDED APPEAL BRIEF

This Amended Appeal Brief is in response to the Notification of Non-Compliant Appeal Brief dated July 3, 2008.

Real Party in Interest

The real party in interest in this Appeal is Ricoh Co., Ltd., a corporation of Japan.

Related Appeals and Interferences

There are no related appeals, interferences, or judicial proceedings known to Appellant, Appellant's legal representative, or the Assignee that may directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

<u>**Status of Claims**</u>

Claims 1, 4-8, 10-12, 15-17, 19, 22, 25, 27, 29, 30, 34-40, 42-44, and 46-49 are pending in this Application and stand rejected. On March 26, 2008, the appellants appealed from the final rejection of claims 1, 4-8, 10-12, 15-17, 19, 22, 25, 27, 29, 30, 34-40, 42-44, and 46-49. The claims on appeal, claims 1, 4-8, 10-12, 15-17, 19, 22, 25, 27, 29, 30, 34-40, 42-44, and 46-49, are set forth in an appendix attached hereto.

<u>**Status of Amendments**</u>

No amendments have been filed subsequent to final rejection.

<u>**Summary of Claimed Subject Matter**</u>

The claimed invention provides multi-projector systems and methods for translating user input changing a source image into changes in a corresponding display image. Such changes to the source image include dragging, or otherwise moving, a window in the source image, or resizing a window in the source image. The systems and methods include use or one or more of each display type, including workspace projectors, window projectors, regional projectors, or display devices, which either separately or collectively display image portions. For example, a plurality of workspace projectors may collectively display a blank area with no visible seams.

User input also may affect changes to which displays display which portions. For example, user input changing which window is active may affect which projector displays which window.

These aspects of the claimed invention provide a large display containing a region in which advanced functionality or features are enabled, without necessarily enabling such advanced features in the remainder of the large display. These aspects of the claimed invention also provide these advantages without requiring the user to perform additional actions or commands beyond normal window manipulation that is done in the context of user interface interaction. Specification, [0006] – [0009].

The following explains the subject matter of each independent claim, with references to supporting aspects of the specification.

Claim 1 recites a multi-projector display system (FIG. 1, [0028]) for displaying on a screen a display image corresponding to a source image including at least one window (FIG. 1, [0008]), comprising: a window projector ([0009]), for displaying, at a display location on the screen, a first portion of the display image corresponding to a movable window from the source image ([0008], FIG. 2, [0032]); a workspace projector ([0009]), for displaying on the screen a second portion of the display image comprising a blank area corresponding to the display location of the movable window from the source image ([0008], FIG. 2, [0032]), wherein no light is projected in the blank area by the workspace projector ([0008], [0009]); an input device, for receiving user input changing the source image ([0053]), ([0056]); and a control mechanism ([0053], [0059]), coupled to the window projector and input device (FIG. 1), for, responsive to the input device receiving a user command to drag the moveable window from a first location to a second location in the source image ([0053]), controlling the window projector to affect a change in the display location on the screen of the first portion of the display image ([0009], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Claim 4 recites a multi-projector display system (FIG. 1, [0028]) for displaying a display image including portions corresponding to at least two windows of a source image (FIG. 1, [0008], [0033]), comprising: a window projector ([0009]), for displaying, at a first display location, a first portion of the display image corresponding to a first window of the source image ([0008], FIG. 2, [0032]), wherein the first window is an active window selected via user input to the source image ([0008], [0009]); a workspace projector ([0009]), for displaying a second portion of the display image corresponding to a second window of the source image, having a second display location different from the first display location ([0008], FIG. 2, [0032]), and comprising a blank area corresponding to the first display location, wherein no light is projected in the blank area by the workspace projector ([0008], [0009]); an input device, for receiving user input changing the source image ([0053]), ([0056]); and a control mechanism ([0053]), ([0059]), coupled to the window projector and input device (FIG. 1), for, responsive to the input device receiving a user command to change the active window from the first window to the second

window such that the second window becomes the active window ([0009], FIG. 7, [0034]), controlling the window and workspace projectors such that the window projector displays the second portion of the image at the second display location and the workspace projector displays the first portion of the image at the first display location ([0009], [0056], [0060]), comprising a second blank area corresponding to the display location of the second window, wherein no light is projected in the second blank area by the workspace projector ([0008], [0009]).

Claim 22 recites a multi-projector display system (FIG. 1, [0028]) for displaying a display image corresponding to at least one window in a source image (FIG. 1, [0008]), comprising: a window projector ([0009]), for displaying, at a display location, a first portion of the display image corresponding to a movable window from the source image ([0008], FIG. 2, [0032]); a plurality of workspace projectors ([0009], [0033]), for collectively displaying a second portion of the display image comprising a blank area corresponding to the display location of the movable window (FIG. 8, [0057], [0008], FIG. 2, [0032]), wherein no light is projected in the blank area by the workspace projector ([0008], [0009]), and wherein no seam is visible in the blank area collectively displayed by the plurality of workspace projectors ([0058]); an input device, for receiving user input changing the source image ([0053]), ([0056]); and at least one control mechanism ([0053]), ([0059]), coupled to the window projector and the input device (FIG. 1), for, responsive to the input device receiving a user command to drag the window from one location to another in the source image ([0053]), controlling the window projector to affect a change in the display location of the first portion of the display image ([0009], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Claim 25 recites a multi-projector display system (FIG. 1, [0028]) for displaying a display image corresponding to at least one window in a source image (FIG. 1, [0008]), comprising: a plurality of window projectors ([0009], [0033]), each for displaying, at a display location, a first portion of the display image corresponding to a movable window in the source image ([0008], FIG. 2, [0032]); a plurality of workspace projectors ([0009], [0033]), for collectively displaying a second portion of the display image comprising a blank area corresponding to the display location of the movable window (FIG. 8, [0057], [0008], FIG. 2, [0032]), wherein no light is projected in the blank area by the workspace projector ([0008],

[0009]), and wherein no seam is visible in the blank area collectively displayed by the plurality of workspace projectors ([0058]); an input device, for receiving user input changing the source image ([0053], [0056]); and at least one control mechanism, coupled to the window projectors and input device, for, responsive to the input device receiving a user command to the moveable window from one location to another in the source image ([0053], [0059]), controlling the window projector to affect a change in the display location of a corresponding portion of the display image ([0009], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Claim 27 recites a display system (FIG. 1, [0028]) for displaying on a display device a display image corresponding to a source image including at least one window (FIG. 1, [0008]), the system comprising: the display device (FIG. 1, FIG. 5), for displaying a first portion of the display image comprising an omitted area corresponding to a movable window from the source image ([0008], FIG. 2, [0032]); a window projector ([0009]), for projecting onto the display device, at the omitted area, a second portion of the display image corresponding to the omitted area ([0008], FIG. 2, [0032]); an input device, for receiving user input changing the source image ([0053], [0056]); and a mechanism ([0053], [0059]), coupled to the window projector and the input device (FIG. 1), for, responsive to the input device receiving a user command to drag the movable window from one location to another ([0053]), controlling the window projector to affect a change in the display location of the second portion of the display image corresponding to the omitted area ([0009], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Claim 29 recites a multi-projector display system (FIG. 1, [0028]) for displaying a display image (FIG. 1, [0008]), the system comprising: at least one regional image source, each for providing a movable display region of a source image ([0008], [0009], FIG. 2, [0032]); a workspace image source, for providing a blank area corresponding to the movable display region of the source image ([0008], [0009], FIG. 2, [0032]); at least one regional projector ([0009]), each coupled to a regional image source, each for displaying a first display image portion corresponding to the moveable display region of the source image ([0008], FIG. 2, [0032]); a workspace projector ([0009]), coupled to the workspace image source, for displaying a second display image portion corresponding to the blank area of the source image ([0008], FIG. 2,

[0032]), wherein no light is projected in the second display image portion by the workspace projector ([0008], [0009]); an input device, for receiving user input changing the source image ([0053]), ([0056]); and at least one control mechanism ([0053]), ([0059]), coupled to the at least one regional projector and the input device (FIG. 1), for, responsive to the input device receiving a user command to drag the moveable display region of the image source from one location to another ([0053]), controlling the at least one regional projector to affect a change in location for the first display image portion ([0009], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Claim 30 recites a multi-projector display (FIG. 7, FIG. 1, [0028]) method for displaying a display image corresponding to a source image including at least two windows (FIG. 1, [0008]), comprising: displaying, by a window projector, at a first display location, a first portion of the display image corresponding to a movable window from the source image, wherein the first window is an active window selected via user input to the source image ([0008], [0009], FIG. 2, [0032]); displaying, by a workspace projector, a second portion of the display image comprising a second window having a second display location different from the first display location and a blank area corresponding to the first display location of the movable window from the source image, wherein no light is projected in the blank area by the workspace projector ([0008], [0009], FIG. 2, [0032]); receiving the user input affecting a change in the source image ([0053]), ([0056]); and responsive to the user input ([0053]), ([0056]) indicating a user command to change the active window from the moveable window to the second window in the source image, such that the second window becomes the active window, controlling the window and workspace projectors such that the window projector displays the second portion of the display image at the second display location and the workspace projector displays the first portion of the display image ([0009], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Claim 39 recites a multi-projector display method (FIG. 7, FIG. 1, [0028]) for displaying a display image on a screen, the display image corresponding to a source image including at least one window (FIG. 1, [0008]), comprising: displaying, by a window projector, at a display location on the screen, a first portion of the display image corresponding to a movable window from the source image ([0008], [0009], FIG. 2, [0032]), the movable window comprising a

motion picture ([0060]); displaying on the screen, by a workspace projector, a second portion of the display image comprising a blank area corresponding to a display location of the movable window, wherein no light is projected in the blank area by the workspace projector, the second portion comprising a still image ([0008], [0009], FIG. 2, [0032]); controlling the window projector to affect a change in at least one of the display location and size of the first portion of the display image on the screen in response to user input changing the source image ([0053], [0056], [0059], FIG. 1, [0009], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Claim 46 recites a multi-projector display system (FIG. 1, [0028]) for displaying a display image corresponding to a source image including at least one window (FIG. 1, [0008]), comprising: a window projector ([0009]), for displaying, at a display location, a first portion of the display image corresponding to a resizable window from the source image ([0008], FIG. 2, [0032]); a workspace projector ([0009]), for displaying a second portion of the display image comprising a blank area corresponding to a display location of the resizable window from the source image, wherein no light is projected in the blank area by the workspace projector ([0008], FIG. 2, [0032]); an input device, for receiving user input changing the source image ([0053]), ([0056]); and a control mechanism ([0053]), ([0059]), coupled to the window projector and the input device (FIG. 1), for, responsive to the input device receiving a user command to resize the resizable window from the source image ([0053]), controlling the window projector to affect a change in the size of the first portion of the display image ([0009], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Claim 47 recites a multi-projector display system (FIG. 1, [0028]) for displaying a display image corresponding to at least two windows in a source image (FIG. 1, [0008]), comprising: a window projector for displaying, at a display location, a first portion of the display image corresponding to a resizable window ([0008], [0009], FIG. 2, [0032]); a plurality of workspace projectors ([0033]), for collectively displaying a second portion of the display image comprising a blank area corresponding to the display location of the resizable window, wherein no light is projected in the blank area by the workspace projector ([0008], [0009], FIG. 2, [0032]), and wherein no seam is visible in the blank area collectively displayed by the plurality

of workspace projectors ([0058]); an input device, for receiving user input changing the source image ([0053]), ([0056]); and at least one control mechanism ([0053], [0059]), coupled to the window projector and input device (FIG. 1), for, responsive to the input device receiving a user command to resize the resizable window, controlling the window projector to affect a change in the size of the first portion of the display image ([0009], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Claim 48 recites a multi-projector display method (FIG. 1, [0028]) for displaying a display image corresponding to a source image including at least one window (FIG. 1, [0008]), comprising: displaying, by a window projector, at a display location, a first portion of the display image corresponding to a resizable window from the source image ([0008], [0009], FIG. 2, [0032]); displaying, by a workspace projector, a second portion of the display image comprising a blank area corresponding to the display location of the resizable window from the source image, wherein no light is displayed in the blank area by the workspace projector ([0008], [0009], FIG. 2, [0032]); receiving user input changing the source image ([0053]), ([0056]); and responsive to the user input to the source image indicating a user command to resize the resizable window from the source image, controlling the window projector to affect a change in the size of the first and second portions of the display image ([0009], [0053], [0056], [0060]). *See also* Specification, [0008], [0009], and FIG. 7 and accompanying text at [0048] – [0054] (showing window movement).

Grounds of Rejection to be Reviewed on Appeal

Claims 1, 4-13, 15-17, 19-20, 22, 27, 29-30, 33-40, and 42-44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa (US 2004/0095314) in view of Spletzer et al. (US 6,919,909) and further in view of Lechner et al. (US 5,487,665).

Claims 46 and 48 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa (US 2004/0095314) in view of Spletzer et al. (US 6,919,909) and further in view of Lechner et al. (US 5,487,665) and Dugdale (US 5,707,128).

Claims 22 and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa (US 2004/0095314) in view of Spletzer et al. (US 6,919,909) and further in view of Lechner et al. (US 5,487,665) and Fisher et al. (US 5,326,266).

Claim 47 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa (US 2004/0095314) in view of Spletzer et al. (US 6,919,909) and further in view of Lechner et al. (US 5,487,665), Dugdale (US 5,707,128), and Fisher et al. (US 5,326,266).

Claim 49 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa (US 2004/0095314) in view of Spletzer et al. (US 6,919,909) and further in view of Lechner et al. (US 5,487,665), Fisher et al. (US 5,326,266), and Surati et al. (US 6,456,339).

Argument

Rejection of Claims 1, 4-13, 15-17, 19-20, 22, 27, 29-30, 33-40, and 42-44 as Unpatentable Over Nakagawa in View of Spletzer and Further in View of Lechner

Claims 9, 13, 20, 22, and 33

The Examiner rejected claims 9, 13, 20, 22, and 33 under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Spletzer and further in view of Lechner.

Appellants note that in the listing of rejected claims on p. 6 of the Final Office Action dated 12/26/2007, claims 9, 13, 20, 22, and 33 were included as rejected based on Nakagawa in view of Spletzer and further in view of Lechner. However, claims 9, 13, 20, and 33 are cancelled and thus were not addressed substantively in the rejection text that followed. In addition, claim 22 also was not addressed in the rejection text that followed, but was addressed based on Nakagawa in view of Spletzer and further in view of Lechner and Fisher as discussed below. Appellants assume that these claims were erroneously included in the listing of rejected claims.

Claims 1, 5-8, 10-12, 15-17, 19, 27, and 29

The Examiner rejected claims 1, 5-8, 10-12, 15-17, 19, 27, and 29 under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Spletzer and further in view of Lechner.

Claim 1 recites:

A multi-projector display system for **displaying on a screen a display image** corresponding to **a source image** including at least one window, comprising:
>   a window projector, for displaying, at a display location on the screen, a first portion of the display image corresponding to a movable window from the source image;
>   a workspace projector, for displaying on the screen a second portion of the display image comprising a blank area corresponding to the display location of the movable window from the source image, wherein no light is projected in the blank area by the workspace projector;
>   an input device, for **receiving user input changing the source image**; and
>   a control mechanism, coupled to the window projector and input device, for, **responsive to the input device receiving a user command to drag the moveable window from a first location to a second location in the source image, controlling the window projector to affect a change in the display location on the screen of the first portion of the display image.**

These aspects of the claimed invention pertain to user input changing <u>a source image</u>, *i.e.*, moving a window <u>in the source image</u>, that result in changes to a corresponding <u>display image</u>, *i.e.*, changing the location of the portion of the <u>display image</u> corresponding to the window.

These aspects of the claimed invention are not disclosed or suggested by Nakagawa in view of Spletzer and further in view of Lechner, considered alone or in the combination proposed by the Examiner. Specifically, the combination of the cited references lack at least "an input device, for receiving user input changing the source image."

The Examiner has admitted that Spletzer does not disclose providing changes to a source image via user input (Final Office Action dated 12/26/2007, p. 2), and that Lechner does not either (Final Office Action dated 12/26/2007, p. 3).

Nakagawa does not remedy this deficiency. The Examiner alleges that Nakagawa shows this limitation at FIG. 4 (user input device 1) and FIGS. 9A & 9B. However, in this section and elsewhere, Nakagawa merely shows an interactive display whiteboard, in which "windows"

displayed on the whiteboard may be moved such that they are displayed in a different position on the whiteboard. *See, e.g.,* Nakagawa, FIGS. 9A-9B, [0071] – [0076]. In other words, a displayed window may be moved within a display. Thus, Nakagawa discloses only one image: the one displayed on the whiteboard. *Id.* No corresponding **source image**, or change to **a source image**, is disclosed.

The Examiner's rationale is that "Since the display is created by the projector from a single source image, *user input is received* to affect changes to the display image." (emphasis added) However, the claim specifies that the user input received is "user input changing the **source image**." As shown above, Nakagawa's user input changes its *display image*.

Thus, modifying Nakagawa such that the user input device 1 affects a change to a source image would require a modification of Nakagawa's disclosed, established function of dragging a window within a display image. However, the Examiner provides no rationale for modifying Nakagawa in this manner, and thus must be applying improper hindsight reasoning gleaned solely from Appellants' specification to make this jump in logic. See MPEP 2145 (Examiner's rationale may "not include knowledge gleaned only from applicant's disclosure"). Thus, the Examiner's suggestion would require that Nakagawa's input device is used apart from and beyond its "established function," such that the "predictability" of the modification is precluded. *See KSR*, 127 S.Ct. 1727, 1739 (2007). Therefore, the claimed invention is "more than a predictable use of [these] prior art elements according to their established functions" under *KSR*. *Id.*

Thus, claim 1 is patentably distinguishable over the cited references, alone or in the suggested combination.

Each of claims 5-8, 10-12, 15-17, and 19 depend from claim 1. All arguments advanced above with respect to claim 1 apply equally to these dependent claims as well. In addition, claims 5-8, 10-12, 15-17, and 19 recite other patentable features which further distinguish them from the prior art of record. Thus, Appellants submit that the rejections of claims 5-8, 10-12, 15-17, and 19 are likewise improper and should be reversed by reason of their dependency, in addition to the further patentable features recited therein.

Similarly, claims 27 and 29 recite "an input device, for receiving user input changing the source image." Thus, the arguments advanced above with respect to claim 1 apply to claims 27 and 29 as well; Appellants submit that the rejection of claims 27 and 29 should be reversed.

Claim 38

The Examiner rejected claim 38 under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Spletzer and further in view of Lechner.

Claim 38 recites, *inter alia*, "controlling the window projector to affect a change in at least one of the display location and size of the first portion of the display image on the screen **in response to user input changing the source image**." Thus, Appellants submit that claim 38 is patentably distinguishable over Nakagawa in view of Spletzer and further in view of Lechner for the above-stated reasons.

Claims 4, 30, 34-37, 39-40, and 42-44

The Examiner rejected claims 4, 30, 34-37, 39-40, and 42-44 under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Spletzer and further in view of Lechner.

Claim 4 is representative:

> A multi-projector display system for displaying a display image including portions corresponding to at least two windows of a source image, comprising:
>> a window projector, for displaying, at a first display location, a first portion of the display image corresponding to a first window of the source image, wherein the first window is an active window selected via user input to the source image;
>> a workspace projector, for displaying a second portion of the display image corresponding to a second window of the source image, having a second display location different from the first display location, and comprising a blank area corresponding to the first display location, wherein no light is projected in the blank area by the workspace projector;
>> **an input device, for receiving user input changing the source image**; and
>> **a control mechanism,** coupled to the window projector and input device, **for, responsive to the input device receiving a user command to change the active window from the first window to the second window such that the second window becomes the active window, controlling the window and workspace projectors such that the window projector displays the second portion of the image at the second display location and the workspace projector displays the first portion of the image at the first display location,** comprising a second blank area corresponding to the display location of the second window, wherein no light is projected in the second blank area by the workspace projector.

As an initial matter, claims 4 and 30 are patentably distinguishable over Nakagawa, Spletzer, and Lechner for the reasons articulated above, as they also recite the limitation discussed above with respect to claims 1, 5-8, 10-12, 15-17, 19, 27, and 29.

However, with respect to claims 4 and 30, the combination of Nakagawa, Spletzer, and Lechner has additional deficiencies.

The Examiner refers to the rejection of claim 1, and further relies on Spletzer 2:11-29, indicating that Spletzer "changes the subset based on the portion requiring specific attention" in

combination to Nakagawa, alleging that this shows a change in focus[i] between the displayed windows. *See* Final Office Action at p. 9. Appellants respectfully disagree.

The relevant portion of Spletzer recites:

> The first and second portions of the image can be any portions of the image, including the entire image. For example, the first portion can be an entire image to be displayed, and the second portion can be a subset of the entire image that requires display in higher resolution. **The first portion can be, for example, a display of a camera image** while the second portion is a subset of the camera image deserving specific attention (e.g., where motion occurs, or where detailed features are present). The first and second portions can change with time. In the entire image/subset example, the entire image can change with time, as with a panning camera or an animated computer display. The subset can also change with time, both in content (as the image itself changes) and in relation to the entire image (as the subset deserving attention moves relative to the image). Motion of the second portion relative to the entire image can follow, as examples, a viewer's eye movements, motion of a pointing device, and motion of an onscreen object (such as a ball in a sporting event).

Spletzer, 2:11-29.

First, Appellants note that the "portions" of "the image" discussed in this section are portions of a <u>display image</u> ("The first portion can be, for example, a display of a camera image"). Next, Appellants note that Spletzer does not disclose any ability or mechanism for showing how **user input** might affect a change to **a source image**. Specifically, Spletzer's "portion...deserving specific attention" is *inherent* in the image ("e.g., where motion occurs, or where detailed features are present"), rather than **an active window** manually selected via **user input**. Thus, even if combined with Nakagawa's (deficient, <u>display image</u>) windows, the combination does not yield these claimed aspects. Spletzer, *id.*

The Examiner also fails to show several limitations of claim 4 in the cited art. Specifically, "a control mechanism...for...controlling the window and workspace projectors such that the <u>window projector</u> displays the <u>second portion</u> of the image at the second display location and the <u>workspace projector</u> displays the <u>first portion</u> of the image at the first display location." I.e., the projectors *switch* which portions they display – window projector was

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[i] Note that the Examiner again has rejected the claims using language that does not reflect the current claim language.

displaying first portion of display image, now displaying second portion, and workspace projector was displaying second portion, now displaying first portion.

Appellants submit that Spletzer cannot show these limitations. As indicated above, Spletzer's portions "can change with time, as with panning a camera…as the subset deserving attention moves relative to the image. Motion … can follow, as examples, a viewer's eye movements, motion of a pointing device, and motion of an onscreen object (such as a ball in a sporting event)." Nowhere does Spletzer show the ability to *change* which portion (of even the display image) is active, only to follow the movement of the portion deserving attention. As a result, even combined with Nakagawa (and assuming *arguendo* that Nakagawa showed source windows, shown above to be untrue), these aspects would not show projectors switching which portions they display, i.e., "controlling the window and workspace projectors such that the window projector displays the second portion of the image at the second display location and the workspace projector displays the first portion of the image at the first display location."

Lechner does not remedy the above-stated deficiencies of Nakagawa and Spletzer, nor does the Examiner argue that it does.

The Examiner's rationale for combining the references is deficient for the above-discussed reasons. Further, the modifications suggested here, (1) that Nakagawa could have its user input device 1 affect a change to a source image, and (2) Spletzer's second display portion that follows the movement of the portion deserving attention instead changing which portion is active; and (3) translating that change into controlling (presumably Nakagawa's) two projectors to switch which portions they display, would require a modification far beyond Nakagawa's and Spletzer's disclosed, established functions for the reasons above. The Examiner provides no rationale for modifying the references in this manner, and thus must be applying improper hindsight reasoning gleaned solely from Appellants' specification to make this jump in logic. See MPEP 2145. These modifications beyond the "established functions" of the references thus preclude the "predictability" of such modifications. *See KSR*, 127 S.Ct. 1727, 1739 (2007). Therefore, the claimed invention is "more than a predictable use of [these] prior art elements according to their established functions" under *KSR*. *Id.*

Thus, claim 4 is patentably distinguishable over the cited references, alone or in the suggested combination.

Similarly, claim 30 recites language very similar to that described above for claim 4. Thus, the arguments advanced above with respect to claim 4 apply to claim 30 as well; Appellants submit that the rejection of claim 30 should be reversed.

Each of claims 34-37, 39-40, and 42-44 depend from claim 30. All arguments advanced above with respect to claim 30 apply equally to these dependent claims as well. In addition, claims 534-37, 39-40, and 42-44 recite other patentable features which further distinguish them from the prior art of record. Thus, Appellants submit that the rejections of claims 34-37, 39-40, and 42-44 are likewise improper and should be reversed by reason of their dependency, in addition to the further patentable features recited therein.

Rejection of Claims 46 and 48 as Unpatentable Over Nakagawa in View of Spletzer and Further in View of Lechner and Dugdale

Claim 46

The Examiner rejected claim 46 under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Spletzer and further in view of Lechner and Dugdale.

Claim 46 recites:

A multi-projector display system for displaying a display image corresponding to a source image including at least one window, comprising:

> a window projector, for displaying, at a display location, a first portion of the display image corresponding to a resizable window from the source image;

> a workspace projector, for displaying a second portion of the display image comprising a blank area corresponding to a display location of the resizable window from the source image, wherein no light is projected in the blank area by the workspace projector;

> **an input device, for receiving user input changing the source image**; and

> **a control mechanism, coupled to the window projector and the input device, for, responsive to the input device receiving a user command to resize the resizable window from the source image, controlling the window**

projector to affect a change in the size of the first portion of the display image.

As an initial matter, claim 46 is patentably distinguishable over Nakagawa, Spletzer, and Lechner for the reasons articulated above with respect to claim 1, as claim 46 also recites "an input device, for receiving user input changing the source image."

Dugdale does not remedy the above-stated deficiencies of Nakagawa, Spletzer, and Lechner, nor does the Examiner argue that it does.

Dugdale has additional deficiencies with respect to claim 46. The Examiner refers to the rejection of claim 1, and further relies on Dugdale 3:4-9, "where the lens on the target projector can perform a zoom function to change the size of the target image" as allegedly "teach[ing] a display system wherein a control mechanism changes the size of the window portion of the image **in response to a user command** for resizing the window." Final Office Action, p. 15 (emphasis added). Appellants respectfully disagree.

First, the "lens on the target projector" cannot be the claimed "control mechanism coupled to the window projector and the input device...." The only thing that could possibly be considered an "input device" in Dugdale's system is the joystick/keyboard 66, and it is not coupled to the lens system 56. *See* Dugdale, FIG. 2. In addition, the image zoom/sizing described in Dugdale is "for the target image to appear the proper size" (Dugdale, 3:9-10), not "responsive to the input device receiving a user command to resize the resizable window from the source image" as claimed. Dugdale shows no such **user device** or other means for **receiving a user command**, and no means for **resizing** any portion **of the source image**, as claimed. Thus, Dugdale does not show the aspect for which the Examiner relies upon this reference in the combination.

The Examiner's rationale for combining the references is deficient for the above-discussed reasons. Further, modification of Dugdale's proper-sizing zoom function such that it was "responsive to [an] input device receiving a user command to resize" would require a modification beyond Dugdale's established functions, or those of the other references in the suggested combination. The Examiner provides no rationale for modifying the references in this

manner, and thus must be applying improper hindsight reasoning gleaned solely from Appellants' specification to make this jump in logic. See MPEP 2145. These modifications go beyond the "established functions" of the reference and thus preclude the "predictability" of such modifications. See KSR, 127 S.Ct. 1727, 1739 (2007). Therefore, the claimed invention is "more than a predictable use of [these] prior art elements according to their established functions" under KSR. Id.

Thus, claim 46 is patentably distinguishable over the cited references, alone or in the suggested combination.

Claim 48

Claim 48 recites language very similar to that described above for claim 46, except: "to affect a change in the size of the first and second portions of the display image." Thus, the arguments advanced above with respect to claim 46 apply to claim 48 as well. However, the Examiner does not show this additional limitation in Dugdale or elsewhere in the suggested combination of references. Rather, the Examiner merely rejects claim 48 "under the same rationale as claim 46." Final Office Action, p. 15. The Examiner's omnibus rejection of claims 46 and 48 is improper. See MPEP 707.07(d) ("A plurality of claims should never be grouped together in a common rejection, unless that rejection is **equally applicable** to all claims in the group." (emphasis added)).

Further, this additional limitation cannot be shown in Dugdale. Per the sections discussed above with respect to claim 46, Dugdale only discusses a single target image, and thus, a single zoom/sizing. Nowhere does Dugdale show resizing of two portions of a display image.

This modification also goes beyond Dugdale's "established functions," thus rendering such modification further unpredictable; the claimed invention therefore is "more than a predictable use of [these] prior art elements according to their established functions" under KSR. See KSR, 127 S.Ct. 1727, 1739 (2007).

Thus, claim 48 is distinguished over the suggested combination of references for these additional reasons.

<u>Rejection of Claims 22 and 25 as Unpatentable Over Nakagawa in View of Spletzer and Further in View of Lechner and Fisher</u>

The Examiner rejected claims 22 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Spletzer and further in view of Lechner and Fisher.

Claim 22 is representative:

A multi-projector display system for displaying a display image corresponding to at least one window in a source image, comprising:

> a window projector, for displaying, at a display location, a first portion of the display image corresponding to a movable window from the source image;
> **a plurality of workspace projectors, for collectively displaying a second portion of the display image comprising a blank area corresponding to the display location of the movable window**, wherein no light is projected in the blank area by the workspace projector, and **wherein no seam is visible in the blank area collectively displayed by the plurality of workspace projectors**;
> **an input device, for receiving user input changing the source image**; and
> at least one control mechanism, coupled to the window projector and the input device, for, responsive to the input device receiving a user command to drag the window from one location to another in the source image, controlling the window projector to affect a change in the display location of the first portion of the display image.

As an initial matter, claim 22 is patentably distinguishable over Nakagawa, Spletzer, and Lechner for the reasons articulated above with respect to claim 1, as claim 22 also recites "an input device, for receiving user input changing the source image."

Fisher does not remedy the above-stated deficiencies of Nakagawa, Spletzer, and Lechner, nor does the Examiner argue that it does.

Fisher has additional deficiencies with respect to claim 22. The Examiner (1) indicates that "Fisher et al. disclose a display system, wherein <u>the window projector</u> (Fig. 1, projector 14) displays the portion of the image corresponding to a <u>window</u> (Fig. 1, inset 10) without any visible seams (see col. 1, lines 65 – col. 2, line 5)" (Final Office Action, p. 16, emphasis added) and (2) alleges that Appellants failed "to explicitly point out the problems with previously

rejected claim 24 which [sic] recited this feature" (Final Office Action, p. 5). These statements are based on an incorrect reading of the claims.

First, claim 24 (now cancelled) was a dependent claim that previously recited "wherein the window projector displays the first portion of the image without any visible seams." In contrast, claim 22 recites "**a plurality of workspace projectors**, for **collectively displaying** a second portion of the display image comprising a blank area…wherein no seam is visible **in the blank area collectively displayed by the plurality of workspace projectors**. Thus, claim 22 recites different limitations than prior claim 24. Because the Examiner rejects the claims using language that does not reflect the current state of the claims, even assuming *arguendo* that the references show exactly what the Examiner asserts, the Examiner has not even asserted that the cited references show the currently claimed limitations, and thus has not met his *prima facie* burden.

Second, Appellants submit that the Examiner's misunderstanding of these limitations stems from the Examiner's reliance on previous claim language to reject claim 22, which does not reflect the current state of the claims. In the above example, the Examiner indicates that Fisher discloses "the window projector…." Final Office Action, p. 16. Appellants note that claim 22 recites both **plural** projectors, and those of the **workspace** variety.

Next, the Examiner argues that Fisher "was only used to teach that there is no seam." Final Office Action, p. 5. The problem with the Examiner's admission is that if true, the Examiner has not met his burden for this limitation on the claims. Specifically, the claim recites "no seam is visible in the blank area collectively displayed by the plurality of workspace projectors." Assuming that the Examiner meant Fisher to show more than he says, Fisher still does not show this limitation.

Figure 1 of Fisher is shown below.

FIG. 1
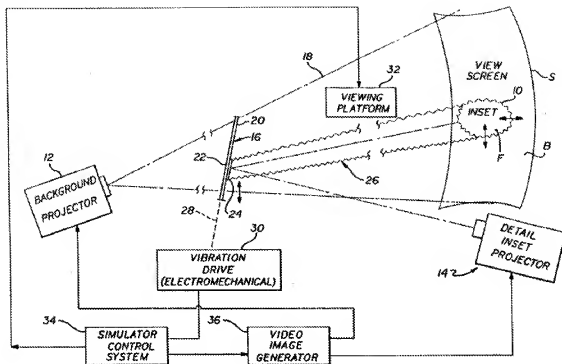
Fisher recites blending the "transition" between image 10, provided by detail inset projector 14, and background image (shown by light cone 18 on screen S), provided by background projector 12. *See* Fisher, FIG. 1. In other words, Fisher shows blending the edges between a first image (inset) and second image (background), resulting in an "effectively blended region" between the two images. Fisher, 2:4-6. This overcomes the prior problem of "visible effects at the border between [ ] two images." *Id.*, 1:36-38.

However, Fisher does not disclose or suggest eliminating seams between **workspace** projectors **collectively displaying** a blank area, as claimed. Fisher's closest corollary to the claimed plurality of workspace projectors is the sole background projector 12. Fisher, FIG. 1. In addition to being only one projector, no mechanism to remove seams between such projectors is shown, nor any ability to use plural background projectors to collectively display a blank area.

Thus, Fisher does not show these limitations of claim 22.

Furthermore, the Examiner admits that Nakagawa, Spletzer, and Lechner do not show "a display system, wherein the window projector displays the portion of the image corresponding to a window [ ] without any visible seams."[ii] Final Office Action, p. 16. Thus, in combination with the above-described deficiencies, the suggested combination does not show the claimed limitations of claim 22.

In addition, the Examiner's rationale for combining the references is deficient – for the above-discussed reasons, and for those that follow. Modification of Fisher's two-image-blending-from-two-projector-types function such that it instead renders seamless portions of a collectively displayed image by multiple workspace projectors would require a modification beyond Fisher's established functions, or those of the other references in the suggested combination. The Examiner provides no rationale for modifying the references in this manner, and thus must be applying improper hindsight reasoning gleaned solely from Appellants' specification to make this jump in logic. See MPEP 2145. These modifications go beyond the "established functions" of the reference and thus preclude the "predictability" of such modifications. See KSR, 127 S.Ct. 1727, 1739 (2007). Therefore, the claimed invention is "more than a predictable use of [these] prior art elements according to their established functions" under KSR. Id.

Thus, claim 22 is patentably distinguishable over the cited references, alone or in the suggested combination.

Claim 25 recites similar limitations to claim 22, except "a plurality of window projectors." Thus, the arguments advanced above with respect to claim 22 apply to claim 25 as well; Appellants submit that the rejection of claim 25 should be reversed.

Rejection of Claim 49 as Unpatentable Over Nakagawa in View of Spletzer and Further in View of Lechner, Fisher, and Surati

The Examiner rejected claim 49 under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Spletzer and further in view of Lechner, Fisher, and Surati.

[ii] Appellants note that this rejection provides an incorrect recitation of claim 22.

As an initial matter, claim 49 is patentably distinguishable over Nakagawa, Spletzer, Lechner, and Fisher for the reasons articulated above with respect to claim 22, as claim 49 depends on claim 22. All arguments with respect to claim 22 also are applicable to claim 49.

Surati does not remedy the above-stated deficiencies of Nakagawa, Spletzer, Lechner, and Fisher, nor does the Examiner assert that it does.

Thus, claim 49 is patentably distinguishable over the combination of Nakagawa, Spletzer, Lechner, Fisher, and Surati.

Rejection of Claim 47 as Unpatentable Over Nakagawa in View of Spletzer and Further in View of Lechner, Dugdale, and Fisher

The Examiner rejected claim 47 under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Spletzer and further in view of Lechner, Dugdale, and Fisher.

Claim 47 recites the resizable window aspects of claims 46 and 48 described above, as well as the no visible seam in the blank area collectively displayed by the plurality of workspace projectors aspect of claims 22 and 25.

Thus, the arguments advanced above with respect to claims 46, 48, 22, and 25 apply to claim 47 as well; Appellants submit that the rejection of claim 47 should be reversed for at least these reasons.

Respectfully submitted,
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<u>Claims Appendix</u>

1. (Rejected) A multi-projector display system for displaying on a screen a display image corresponding to a source image including at least one window, comprising:

> a window projector, for displaying, at a display location on the screen, a first portion of the display image corresponding to a movable window from the source image;

> a workspace projector, for displaying on the screen a second portion of the display image comprising a blank area corresponding to the display location of the movable window from the source image, wherein no light is projected in the blank area by the workspace projector;

> an input device, for receiving user input changing the source image; and

> a control mechanism, coupled to the window projector and input device, for, responsive to the input device receiving a user command to drag the moveable window from a first location to a second location in the source image, controlling the window projector to affect a change in the display location on the screen of the first portion of the display image.

2.-3. (Canceled)

4. (Rejected) A multi-projector display system for displaying a display image including portions corresponding to at least two windows of a source image, comprising:

> a window projector, for displaying, at a first display location, a first portion of the display image corresponding to a first window of the source image, wherein the first window is an active window selected via user input to the source image;

> a workspace projector, for displaying a second portion of the display image corresponding to a second window of the source image, having a second display location different from the first display location, and comprising a

blank area corresponding to the first display location, wherein no light is projected in the blank area by the workspace projector;

an input device, for receiving user input changing the source image; and

a control mechanism, coupled to the window projector and input device, for, responsive to the input device receiving a user command to change the active window from the first window to the second window such that the second window becomes the active window, controlling the window and workspace projectors such that the window projector displays the second portion of the image at the second display location and the workspace projector displays the first portion of the image at the first display location, comprising a second blank area corresponding to the display location of the second window, wherein no light is projected in the second blank area by the workspace projector.

5. (Rejected) The display system of claim 1, wherein:

the window projector displays the first portion of the image at a first level of resolution; and

the workspace projector displays the second portion of the image at a second level of resolution.

6. (Rejected) The display system of claim 5, wherein the first level of resolution is greater than the second level of resolution.

7. (Rejected) The display system of claim 1, wherein:

the window projector displays the first portion of the image in monochrome; and

the workspace projector displays the second portion of the image in color.

8. (Rejected) The display system of claim 7, wherein the first portion of the image is displayed in high resolution and the second portion of the image is displayed in low resolution.

9. (Canceled)

10. (Rejected) The display system of claim 1, wherein the window projector and the workspace projector are coupled to a common image source, and wherein the first portion of the display image displayed by the window projector and the second portion of the display image displayed by the workspace projector are derived from a single image.

11. (Rejected) The display system of claim 1, wherein the window projector is coupled to a first image source, and the workspace projector is coupled to a second image source.

12. (Rejected) The display system of claim 1, wherein the display image includes a plurality of display windows corresponding to a plurality of windows from the source image, one of the windows currently being active, and wherein the window projector displays on the screen a portion of the display image corresponding to the active window.

13.-14. (Canceled)

15. (Rejected) The display system of claim 1, wherein, the workspace projector moves the blank area of the display image so as to correspond to the changed display location of the first portion of the display image.

16. (Rejected)   The display system of claim 1, wherein the control mechanism changes the display location of the first portion of the display image by repositioning the window projector.

17. (Rejected) The display system of claim 1, further comprising a mirror for directing the output of the window projector to the display location, and wherein the control mechanism changes the display location of the first portion of the display image by repositioning the mirror.

18. (Canceled)

19. (Rejected) The display system of claim 1, wherein the control mechanism comprises:

>   a pan/tilt control mechanism; and
>   a zoom control mechanism.

20.-21. (Canceled)

22. (Rejected) A multi-projector display system for displaying a display image corresponding to at least one window in a source image, comprising:

> a window projector, for displaying, at a display location, a first portion of the display image corresponding to a movable window from the source image;

> a plurality of workspace projectors, for collectively displaying a second portion of the display image comprising a blank area corresponding to the display location of the movable window, wherein no light is projected in the blank area by the workspace projector, and wherein no seam is visible in the blank area collectively displayed by the plurality of workspace projectors;

> an input device, for receiving user input changing the source image; and

> at least one control mechanism, coupled to the window projector and the input device, for, responsive to the input device receiving a user command to drag the window from one location to another in the source image, controlling the window projector to affect a change in the display location of the first portion of the display image.

23.-24. (Canceled)

25. (Rejected) A multi-projector display system for displaying a display image corresponding to at least one window in a source image, comprising:

> a plurality of window projectors, each for displaying, at a display location, a first portion of the display image corresponding to a movable window in the source image;

> a plurality of workspace projectors, for collectively displaying a second portion of the display image comprising a blank area corresponding to the display location of the movable window, wherein no light is projected in the blank area by the workspace projector, and wherein no seam is visible in the blank area collectively displayed by the plurality of workspace projectors;

an input device, for receiving user input changing the source image; and

at least one control mechanism, coupled to the window projectors and input device, for, responsive to the input device receiving a user command to the moveable window from one location to another in the source image, controlling the window projector to affect a change in the display location of a corresponding portion of the display image.

26. (Canceled)

27. (Rejected) A display system for displaying on a display device a display image corresponding to a source image including at least one window, the system comprising:

the display device, for displaying a first portion of the display image comprising an omitted area corresponding to a movable window from the source image;

a window projector, for projecting onto the display device, at the omitted area, a second portion of the display image corresponding to the omitted area;

an input device, for receiving user input changing the source image; and

a mechanism, coupled to the window projector and the input device, for, responsive to the input device receiving a user command to drag the movable window from one location to another, controlling the window projector to affect a change in the display location of the second portion of the display image corresponding to the omitted area.

28. (Canceled)

29. (Rejected) A multi-projector display system for displaying a display image, the system comprising:

at least one regional image source, each for providing a movable display region of a source image;

a workspace image source, for providing a blank area corresponding to the movable display region of the source image;

at least one regional projector, each coupled to a regional image source, each for displaying a first display image portion corresponding to the moveable display region of the source image;

a workspace projector, coupled to the workspace image source, for displaying a second display image portion corresponding to the blank area of the source image, wherein no light is projected in the second display image portion by the workspace projector;

an input device, for receiving user input changing the source image; and

at least one control mechanism, coupled to the at least one regional projector and the input device, for, responsive to the input device receiving a user command to drag the moveable display region of the image source from one location to another, controlling the at least one regional projector to affect a change in location for the first display image portion.

30. (Rejected) A multi-projector display method for displaying a display image corresponding to a source image including at least two windows, comprising:

displaying, by a window projector, at a first display location, a first portion of the display image corresponding to a movable window from the source image, wherein the first window is an active window selected via user input to the source image;

displaying, by a workspace projector, a second portion of the display image comprising a second window having a second display location different from the first display location and a blank area corresponding to the first display location of the movable window from the source image, wherein no light is projected in the blank area by the workspace projector;

receiving the user input affecting a change in the source image; and

responsive to the user input indicating a user command to change the active window from the moveable window to the second window in the source image, such that the second window becomes the active window, controlling the window and workspace projectors such that the window projector displays the second portion of the display image at the second

display location and the workspace projector displays the first portion of the display image.

31.-33. (Canceled)

34. (Rejected) The display method of claim 30, wherein:

    displaying the first portion of the display image comprises displaying the first portion of the display image at a first level of resolution; and

    displaying the second portion of the display image comprises displaying the second portion of the image at a second level of resolution.

35. (Rejected) The display method of claim 34, wherein the first level of resolution is greater than the second level of resolution.

36. (Rejected) The display method of claim 30, wherein:

    displaying the first portion of the display image comprises displaying the first portion of the display image in color; and

    displaying the second portion of the display image comprises displaying the second portion of the display image in monochrome.

37. (Rejected) The display method of claim 36, wherein the first portion is displayed in high resolution and the second portion is displayed in low resolution.

38. (Rejected) A multi-projector display method for displaying a display image on a screen, the display image corresponding to a source image including at least one window, comprising:

    displaying, by a window projector, at a display location on the screen, a first portion of the display image corresponding to a movable window from the source image, the movable window comprising a motion picture;

    displaying on the screen, by a workspace projector, a second portion of the display image comprising a blank area corresponding to a display location of the movable window, wherein no light is projected in the blank

area by the workspace projector, the second portion comprising a still image;

controlling the window projector to affect a change in at least one of the display location and size of the first portion of the display image on the screen in response to user input changing the source image.

39. (Rejected) The display method of claim 30, wherein the display image includes a plurality of windows, one of the windows currently an active window, and wherein displaying a first portion of the display image corresponding to a moveable window from the source image comprises displaying the portion of the display image corresponding to the active window.

40. (Rejected) The display method of claim 39, further comprising, in response to user command changing the active window to a second one of the windows from the source image:

displaying, by the window projector, at the second display location for the second window, a portion of the display image corresponding to the second window from the source image; and

displaying, by the workspace projector, the blank area corresponding to the display location of the second window from the source image, wherein no light is projected in the blank area by the workspace projector.

41. (Canceled)

42. (Rejected) The display method of claim 30, further comprising, in response to a user command for moving the moveable window from the source image, moving the blank area of the display image so as to correspond to the changed display location of the moveable window.

43. (Rejected) The display method of claim 30, wherein changing the display location of the first portion of the display image comprises repositioning the window projector.

44. (Rejected) The display method of claim 30, wherein changing the display location of the first portion of the display image comprises repositioning a mirror.

45. (Canceled)

46. (Rejected) A multi-projector display system for displaying a display image corresponding to a source image including at least one window, comprising:

a window projector, for displaying, at a display location, a first portion of the display image corresponding to a resizable window from the source image;

a workspace projector, for displaying a second portion of the display image comprising a blank area corresponding to a display location of the resizable window from the source image, wherein no light is projected in the blank area by the workspace projector;

an input device, for receiving user input changing the source image; and

a control mechanism, coupled to the window projector and the input device, for, responsive to the input device receiving a user command to resize the resizable window from the source image, controlling the window projector to affect a change in the size of the first portion of the display image.

47. (Rejected) A multi-projector display system for displaying a display image corresponding to at least two windows in a source image, comprising:

a window projector for displaying, at a display location, a first portion of the display image corresponding to a resizable window;

a plurality of workspace projectors, for collectively displaying a second portion of the display image comprising a blank area corresponding to the display location of the resizable window, wherein no light is projected in the blank area by the workspace projector, and wherein no seam is visible in the blank area collectively displayed by the plurality of workspace projectors;

an input device, for receiving user input changing the source image; and

at least one control mechanism, coupled to the window projector and input device, for, responsive to the input device receiving a user command to resize the resizable window, controlling the window projector to affect a change in the size of the first portion of the display image.

48. (Rejected) A multi-projector display method for displaying a display image corresponding to a source image including at least one window, comprising:

    displaying, by a window projector, at a display location, a first portion of the display image corresponding to a resizable window from the source image;

    displaying, by a workspace projector, a second portion of the display image comprising a blank area corresponding to the display location of the resizable window from the source image, wherein no light is displayed in the blank area by the workspace projector;

    receiving user input changing the source image; and

    responsive to the user input to the source image indicating a user command to resize the resizable window from the source image, controlling the window projector to affect a change in the size of the first and second portions of the display image.

49. (Rejected) The display system of claim 22, wherein the plurality of workspace projectors collectively display the second portion of the image by overlapping portions provided by each of the plurality of workspace projectors.

None

Related Proceedings Appendix

None